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Unusual Pelagic Fishes of the Northwest

Atlantic

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IN THE autumn of 1962 Canadian fishermen adopted a new method of fishing swordfish. Up to that time swordfish were taken almost exclusively with harpoons, but since then longlines have accounted for the major part of the catch. The direct effects on the swordfish fishery have been to lengthen the season, to expand the area of operation and to increase the catch. An indirect effect has been the capture of a great variety of large pelagic fishes in addition to swordfish. Some of these fishes such as the tunas (see Fisheries Research Board Circular No. 43) and sharks are well known in more southern waters, but are not familiar to Canadian fishermen. Others, such as the escolars and the moonfish, are little known anywhere.

The present circular describes eight species of large pelagic fishes that are caught or are likely to be caught on swordfish longlines. It has been prepared mainly to help fishermen recognize these fish and to encourage them to submit more information on the captures of these and other unusual fishes.

The importance of submitting information on the captures of unusual fishes cannot be over-emphasized. In many cases such records can provide useful clues to oceanographic changes that might not be noticed otherwise. In others the possibility of a new commercial or sport fishery may be indicated. The dolphins, sailfishes and marlins, for example, are excellent food fishes that provide commercial fisheries in other parts of the Atlantic and are highly prized by anglers.

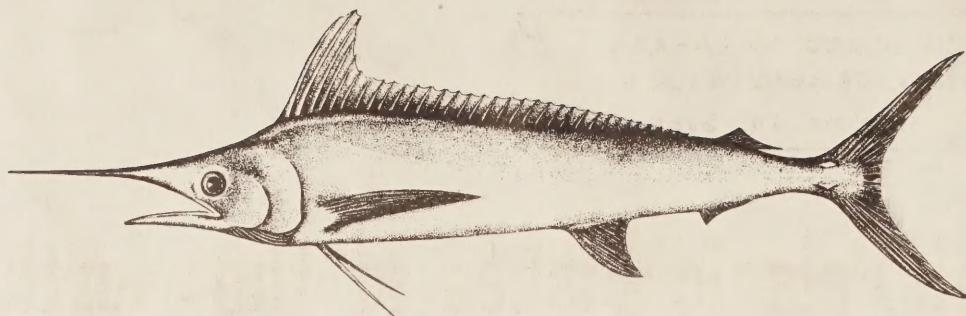
In most cases, fishermen are sufficiently curious to request identification of fishes that are unfamiliar to them and the Biological Station at St. Andrews, N.B., has received many such requests from swordfish fishermen since 1962. Fishermen are urged, however, to record the captures of all

unusual fishes including the ones described here and especially the blue marlin which is of special interest. Records should include the length of the fish and a statement of when, where, how, and by whom it was caught. If the fish cannot be identified, it should be turned over to a Fishery Officer for shipment to St. Andrews.

Illustrations for this circular were obtained from three sources. The oilfish is from a nineteenth century drawing by J. C. Van Hook - courtesy of the U.S. Department of the Interior, Washington, D.C. The sailfish is a recent drawing by Paul Geraghty, Royal Ontario Museum, Toronto, Ont. All other drawings are by D. R. Harriott, St. Andrews, N.B.



Baiting swordfish longlines.



WHITE MAR LIN (*Makaira albicans*)

Distinguishing features. The spearfishes (marlins and sailfishes) resemble the swordfish in general appearance but differ in length and shape of the sword (short and cylindrical in spearfishes, long and flat in swordfish), fins (swordfish has no pelvics) and body covering (swordfish are scaleless).

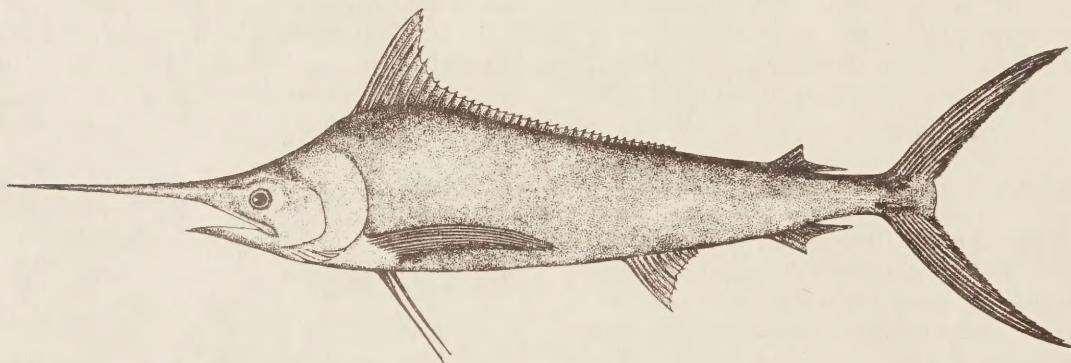
The most striking feature of the marlins is the hard, cylindrical spear formed by the bones of the upper jaw. The white marlin has a slender and elongate body, somewhat flattened or compressed from side to side; first dorsal fin originates over gill cover and is highest in front, its height greater

than body depth at fin origin; lateral line is usually conspicuous; flesh reddish when fresh.

Colour. Dark blue on back becoming gray on sides and white below.

Size. Usually less than 300 lb. White marlin reported from Georges Bank in recent years averaged about 100-120 lb.

Distribution. Warm temperate and tropical waters of the Atlantic from the West Indies northward in summer, at least to Georges Bank.



BLUE MAR LIN (*Makaira nigricans*)

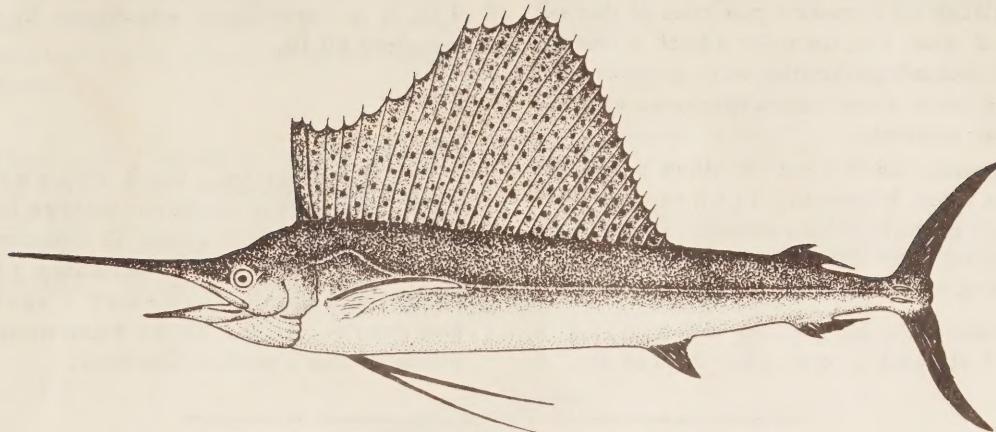
Distinguishing features. Snout with well developed cylindrical spear as in the white marlin; the compressed, elongate body somewhat heavier and more robust than white marlin; origin of first dorsal fin over gill cover, fin highest in front, its height less than body depth at fin origin; lateral line usually not evident; flesh pale.

Colour. Dark blue on back becoming gray-blue on sides and only slightly lighter below.

Size. Said to attain maximum size in excess of 1000 lbs. A record blue marlin 13 ft. 1 in. long

and weighing 810 lb. was caught by angling off Cape Hatteras in 1962.

Distribution. Warm temperate and tropical waters of the Atlantic from the West Indies northward in summer to Cape Cod and rarely to southern Nova Scotia banks. Although often reported in Canadian waters, the only authentic record is a 6 ft. 10 in. fish caught on Browns Bank. The "blue" or "black" marlin reported by longline fishermen have so far proved to be white marlin, but all marlin should be examined carefully.



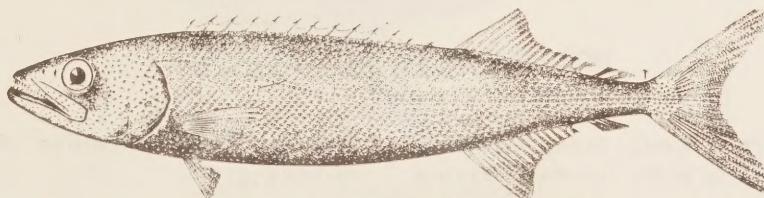
SAILFISH (*Istiophorus albicans*)

Distinguishing features. A spearfish with a slim elongate body, somewhat flattened side to side. General body shape similar to marlins and other spearfishes, but the dorsal fin is very large (hence its name) and is highest in centre, whereas the marlins have a much lower dorsal fin and the front of the fin is highest. Like the marlins, both pectoral and pelvic fins are present.

Colour. Strikingly coloured, the large dorsal fin deep blue to purple with scattered black spots; back blue or blue-green becoming silvery below.

Size. Maximum size to 140 lb. or more, but averages 40 to 50 lb.

Distribution. Warm temperature and tropical waters of the Atlantic, northward to Cape Cod. There are no authentic Canadian records.



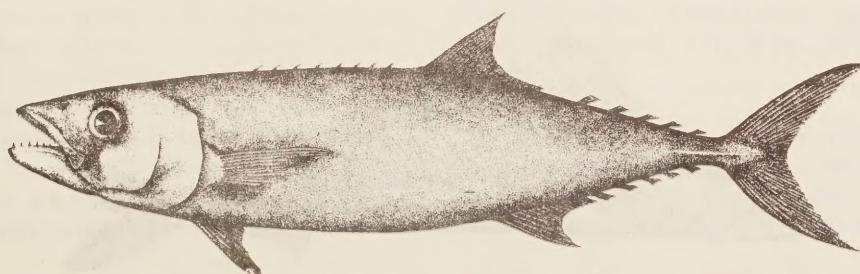
OILFISH (*Ruvettus pretiosus*)

Distinguishing features. Overall shape and appearance mackerel-like; unlike mackerels, the spines of dorsal fin are low, widely spaced and concealed in a groove; the dorsal and anal fins are located far back on body, one above the other; there are only two dorsal and two anal finlets; there is no keel on side of caudal peduncle; and the surface of the body is covered with small prickles.

Colour. Dark brown to black on back becoming lighter below.

Size. Maximum size to 6 ft. and 100 lb.

Distribution. Generally distributed in warm temperate and tropical seas. In the western Atlantic more common in the West Indies region straying northward to Nova Scotia.



ESCOLAR (*Lepidocybium flavobrunneum*)

Distinguishing features. Like the oilfish, the overall shape and appearance is mackerel-like,

but unlike mackerels, spines in spiny dorsal fin are low, widely spaced and concealed in a groove. Dis-

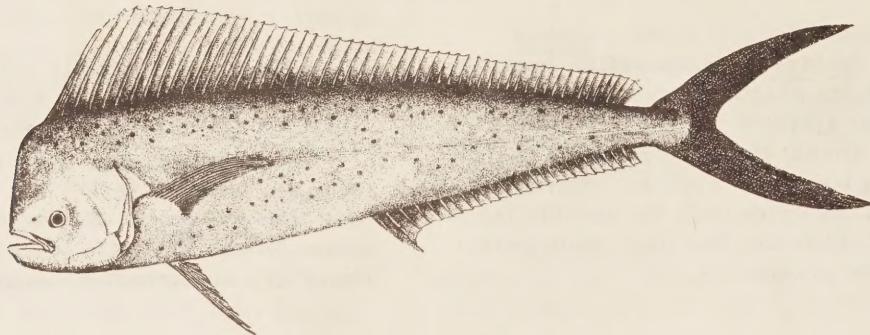
tinguished from oilfish by forward position of dorsal fin well in front of anal fin; usually about 5 dorsal and 5 anal finlets; caudal peduncle with pronounced keel; body covered with thin, inconspicuous scales, lateral line weak or absent.

Colour. Brown, uniformly dark brown or purplish-brown on back becoming lighter below. Skin with a distinct mosaic-like pattern, sometimes with darker mottling, resulting from slight indentations around margins of scales.

Size. A moderately large fish attaining a length of at least 5 ft. and a weight of 110 lb. A

4 ft. 6 in. specimen examined by St. Andrews staff weighed 80 lb.

Distribution. Until recently thought to be rare, occurring in warm waters in tropical Atlantic and Pacific. Only about 12 specimens had been reported prior to 1962. Canadian fishermen have caught and landed at least 7 specimens in the last two years. As far as we know none have been caught north of the Fundian Channel.



DOLPHIN (*Coryphaena hippurus*)

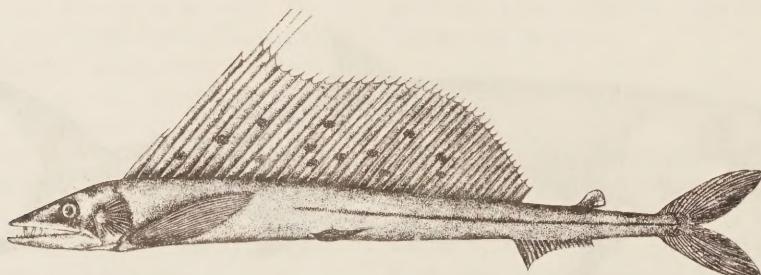
Distinguishing features. Long, tapering body, strongly flattened from side to side; forehead rising abruptly (particularly in males) from horizontal mouth; dorsal fin originates over eye and extends to base of deeply forked tail; anal fin low and long; pelvic fins large; pectoral fins sickle-shaped and located high on sides.

Colour. Males are renowned for their colourful appearance consisting of iridescent blues and greens on head and back and yellows toward the tail. The colours change very rapidly after capture and a variety of hues are exhibited by dying fish. Females

lack the brilliant colour of males and are generally silvery-gray.

Size. Maximum length to about 5 ft. A 3 ft. 6 in. specimen taken in the Fundian Channel weighed 23 lb.

Distribution. Wide ranging in tropical and warm temperate seas. In the northwest Atlantic northward to Nova Scotia banks (but rarely). Three specimens 14 in. long were caught off Prince Edward Island in 1945.



LANCETFISH (*Alepisaurus ferox*)

Distinguishing features. Body slender and elongate; large, fragile dorsal fin supported by

weak fin rays; fleshy adipose fin on back between first dorsal fin and forked tail fin; skin smooth,

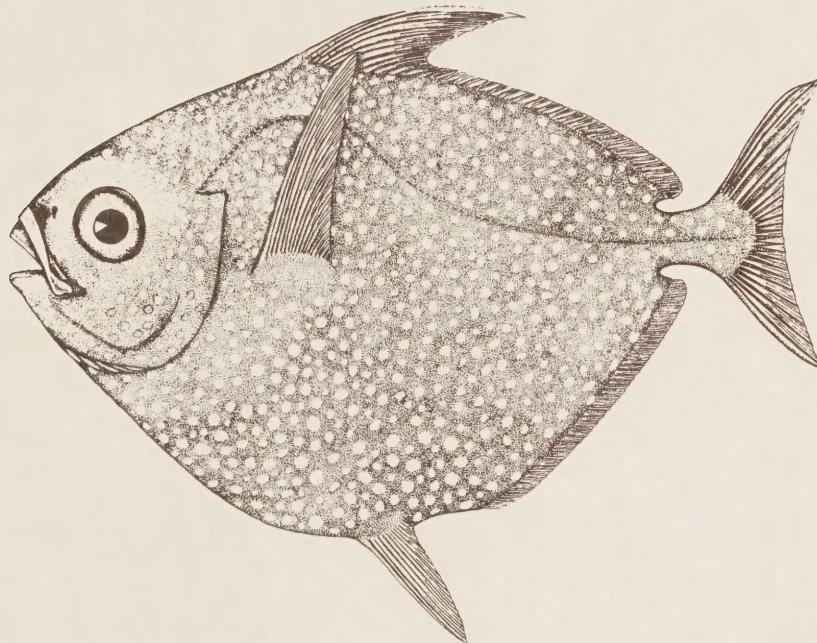
, scaleless; mouth large, extending to behind eye, and armed with many thin, sharp teeth; a few greatly elongated teeth located near front of jaws fit into pits in opposing jaws.

Colour. When fresh, the large dorsal fin and upper part of body iridescent green or blue-green, the dorsal fin with large, irregular black spots. Colours fade quickly and dead lancetfish become dark, sometimes black. The thin skin and soft flesh

give body a partially transparent or jelly-like appearance.

Size. Lengths to about 4 and sometimes 5 ft. Lengths and weights for exceptionally large fish are not available since the lancetfish is not an important game or commercial species.

Distribution. Deeper waters of the Atlantic Ocean northward at least to Banquereau and Grand Bank.



OPAH (Lampris regius)

Distinguishing features. The opah (also called moonfish or Jerusalem haddock) is large and disc-shaped. Body deep (almost as deep as long) and flattened from side to side; both dorsal and anal fins extend nearly to the caudal fin and each fits into a groove. The decurved mouth, large eye, highly arched lateral line and the conspicuously red, pointed pectoral fin are outstanding features.

Colour The following description was made from a specimen examined by St. Andrews staff: "The head and body were a dark violet colour with a silvery cast and covered with silvery white spots. The spots were round to oval in shape, varied in size (longest diameter) up to 17 mm and while numerous on the dorsal and upper lateral surfaces were doubly so on the ventral parts of the body. The skin was thin and easily torn revealing the 'salmon'-pink flesh beneath. The ventral surface

from the mouth to the insertion of the pelvic fins had a distinct rosy shade superimposed on the other colouration.

The fins and the remaining pieces of the jaws were scarlet to vermillion with sparsely scattered silvery white spots which were quite distinct except on the dorsal surface of the pectorals." The remarkably brilliant colouration makes mis-identification most unlikely.

Size. Ranging from 3 to 6 ft. long usually less than 4 ft. A specimen examined by St. Andrews staff measured 3 ft. 9 in. (fork length) and weighed 22 lb.

Distribution. An inhabitant of the open Atlantic and Pacific Oceans. Until 1963 only 9 specimens had been reported from the Cape Cod to the Grand Bank region of the northwest Atlantic. ✓

